

Amendments to and Listing of the Claims:

1. to 22. (Canceled)

23. (New) A gene comprising a DNA having a nucleotide sequence encoding an amino acid sequence selected from the group consisting of:

(a) SEQ ID NO: 1;

(b) an amino acid sequence having a sequence homology of 80% or more with SEQ ID NO: 1, and the sequence is sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;

(c) an amino acid sequence having the sequence homology of 90% or more with SEQ ID NO: 1, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;

(d) an amino acid sequence encoded by a DNA having SEQ ID NO: 2;

(e) an amino acid sequence encoded by a DNA having a nucleotide sequence having a homology of 80% or more with a DNA having SEQ ID NO: 2, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;

(f) an amino acid sequence encoded by a DNA that hybridizes under the stringent conditions with a DNA having a nucleotide sequence that is complementary SEQ ID NO: 2, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;

(g) an amino acid sequence of a protein obtained from a microorganism belonging to genus Leifsonia, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol; and

(h) an amino acid sequence of a protein obtained from Leifsonia sp. S-749, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol.

24. (New) The gene according to claim 23 further comprising a linked promoter.

25. (New) A recombinant vector comprising the gene according to claim 23.

26. (New) A transformant obtained by introducing the gene according to claim 24 or a recombinant vector that comprises a gene comprising a DNA encoding an amino acid sequence selected from the group consisting of:

- (a) SEQ ID NO: 1;
- (b) an amino acid sequence having a sequence homology of 80% or more with SEQ ID NO: 1, and the sequence is a sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;
- (c) an amino acid sequence having a homology of 90% or more with SEQ ID NO: 1, and the sequence is a sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;
- (d) an amino acid sequence encoded by SEQ ID NO: 2;
- (e) an amino acid sequence encoded by a DNA having a nucleotide sequence a homology of 80% or more with a DNA having SEQ ID NO: 2, and the sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;
- (f) an amino acid sequence encoded by a DNA that hybridizes under the stringent condition with a DNA having a nucleotide sequence that is complementary to SEQ ID NO: 2, and the sequence is a sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;
- (g) an amino acid sequence of a protein obtained from a microorganism belonging to genus *Leifsonia*, and the sequence is a sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol; and
- (h) an amino acid sequence of a protein obtained from *Leifsonia* sp. S-749, and the sequence is a sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol.

27. (New) The transformant according to claim 26, wherein the host cell is a microorganism.

28. (New) The transformant according to claim 26, wherein the host cell is *E. coli*.

29. (New) A transformant having the gene according to claim 23.

30. (New) A method for producing a transformant, wherein the method comprises introducing the recombinant vector according to claim 25 into a host cell.

31. (New) A protein having an amino acid sequence selected from the group consisting of:

- (a) SEQ ID NO: 1;
- (b) an amino acid sequence having a sequence homology of 80% or more with

SEQ ID NO: 1, and the sequence is sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;

(c) an amino acid sequence having the sequence homology of 90% or more with SEQ ID NO: 1, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;

(d) an amino acid sequence encoded by a DNA having SEQ ID NO: 2;

e) an amino acid sequence encoded by a DNA having a nucleotide sequence having a homology of 80% or more with a DNA having SEQ ID NO: 2, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;

(f) an amino acid sequence encoded by a DNA that hybridizes under the stringent conditions with a DNA having a nucleotide sequence that is complementary SEQ ID NO: 2, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;

(g) an amino acid sequence of a protein obtained from a microorganism belonging to genus *Leifsonia*, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol; and

(h) an amino acid sequence of a protein obtained from *Leifsonia* sp. S-749, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol.

32. (New) A method for producing an alcohol, wherein the method comprises contacting a ketone compound or an aldehyde compound with:

(i) a protein,

(ii) a microorganism that produces the protein of (i);

(iii) the transformant according to claim 26; or

(iv) a processed product thereof,

wherein the protein of (i) has an amino acid sequence selected from the group consisting of: (a) SEQ ID NO: 1; (b) an sequence having a sequence homology of 80% or more with SEQ ID NO: 1, and the sequence is a sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol; (c) a sequence having a sequence homology of 90% or more with SEQ ID NO: 1, and the sequence is a sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-

phenylethanol; (d) an amino acid sequence encoded by SEQ ID NO: 2; (e) an amino acid sequence encoded by a DNA having a nucleotide sequence that has a homology of 80% or more with SEQ ID NO: 2, and the amino acid sequence is a sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol; (f) an amino acid sequence encoded by a DNA that hybridizes under the stringent condition with a DNA having a nucleotide sequence which is complementary SEQ ID NO: 2, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol; (g) an amino acid sequence of a protein obtained from a microorganism belonging to genus *Leifsonia*, and the amino acid sequence is a sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol; and (h) an amino acid sequence of a protein obtained from *Leifsonia* sp. S-749, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol; and

33. (New) The recombinant vector according to claim 25 further comprising a gene having a DNA having a nucleotide sequence encoding an amino acid sequence of a protein having an ability to convert oxidized β -nicotinamide adenine dinucleotide into the reduced form thereof.

34. (New) The recombinant vector according to claim 33, wherein the protein is glucose dehydrogenase.

35. (New) A transformant obtained by introducing the recombinant vector according to claim 33 into a host cell.

36. (New) The transformant according to claim 35, wherein the host cell is a microorganism.

37. (New) The transformant according to claim 35, wherein the host cell is *E. coli*.

38. (New) A transformant having the gene according to claim 23, and a gene comprising a DNA having a nucleotide sequence encoding an amino acid sequence of a protein having an ability to convert oxidized β -nicotinamide adenine dinucleotide into the reduced form thereof.

39. (New) The method according to claim 32, wherein a protein having an ability to convert oxidized β -nicotinamide adenine dinucleotide into the reduced form thereof is allowed to coexist in the reaction system.

40. (New) The method according to claim 39, wherein the protein having an ability to convert oxidized β -nicotinamide adenine dinucleotide into the reduced form thereof is glucose dehydrogenase.

41. (New) A method for producing an alcohol, wherein the method comprises the step of contacting a ketone compound or an aldehyde compound with the transformant according to claim 35, or a processed product thereof.

42. (New) A microorganism of the genus *Leifsonia* that is *Leifsonia* sp. S-749 (Accession No. of International Depositary Authority: FERM BP-8291).

43. (New) Use of a microorganism belonging to genus *Leifsonia* as a catalyst for producing an alcohol from a ketone compound or an aldehyde compound.

44. (New) Use according to claim 43, wherein the microorganism belonging to genus *Leifsonia* is *Leifsonia* sp. S-749 (Accession No. of International Depositary Authority: FERM BP-8291).